CLAIMS

1. A recording method for a recording medium comprising:

recording main data onto a recording medium on which an identification part indicating the type of the recording medium is provided, so that the main data is readable as optical changes; and

embedding sub data at least into a part of said main data on the basis of a format corresponding to the type of the recording medium and recording the sub data along with said main data.

2. The recording method for a recording medium as claimed in claim 1, wherein encryption processing is performed on text data of said main data, which is then recorded, and said sub data is data for decoding the encryption processing performed on the text data of said main data.

3. The recording method for a recording medium as claimed in claim 1, wherein said sub data is embedded on the basis of a format corresponding to the type of said recording medium, of at least a first format for a reproduction-only recording medium and a second format for a recordable recording medium.

4. The recording method for a recording medium as claimed in claim 3, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into margin bits of said modulation-processed main data.

5. The recording method for a recording medium as claimed in claim 3, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said main data so as to satisfy a connection condition due to said modulation processing performed on said main data.

6. The recording method for a recording medium as claimed in claim 4, wherein said sub data is embedded into a predetermined pattern portion of said modulated main data.

7. The recording method for a recording medium as claimed in claim 4, wherein said sub data is embedded in accordance with the modulation processing performed on said main data.

8. The recording method for a recording medium as claimed in claim 1, wherein said main data has a header portion and data indicating the type of said recording medium is recorded in said header portion.

9. A recording medium on which main data is recorded so that the main data is readable as optical changes and on which sub data is recorded along with said main data, the sub data being embedded in at least a part of said main data on the basis of a format corresponding to the type of the recording medium, the recording medium having an identification part indicating the type of said recording medium.

10. The recording medium as claimed in claim 9, wherein encryption processing is performed on text data of said main data, which is then recorded, and said sub data is

data for decoding the encryption processing performed on the text data of said main data.

11. The recording medium as claimed in claim 9, wherein said sub data is embedded on the basis of a format corresponding to the type of said recording medium, of at least a first format for a reproduction-only recording medium and a second format for a recordable recording medium.

12. The recording medium as claimed in claim 11, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into margin bits of said modulation-processed main data.

13. The recording medium as claimed in claim 11, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said main data so as to satisfy a connection condition due to said modulation processing performed on said main data.

14. The recording medium as claimed in claim 12, wherein said sub data is embedded into a predetermined pattern portion of said modulated main data.

15. The recording medium as claimed in claim 12, wherein said sub data is embedded in accordance with the modulation processing performed on said main data.

16. The recording medium as claimed in claim 9, wherein said main data has a header portion and data indicating the type of said recording medium is recorded in said header portion.

17. A recording method for a recording medium comprising:

recording data onto a recording medium so that the data is readable as optical changes; and

embedding and recording sub data into the data recorded in a predetermined recording area of said recording medium on the basis of a format corresponding to the type of the recording medium.

18. The recording method for a recording medium as claimed in claim 17, wherein said recording medium has a first recording area in which said data is to be recorded and a second recording area which is provided at a position to be read out prior to said first recording area and in which table-of-contents data is to be recorded, said method comprising embedding said sub data into the data recorded in said second recording area.

19. The recording method for a recording medium as claimed in claim 18, wherein modulation processing based on a predetermined modulation system is performed on the data to be recorded in said first recording area and said second recording area, which are then recorded, and said sub data is embedded into margin bits of the data on which said modulation processing is performed.

20. The recording method for a recording medium as claimed in claim 19, wherein said margin bits are selected on the basis of a format corresponding to the type of said recording medium.

21. The recording method for a recording medium as claimed in claim 18, wherein

modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said data so as to satisfy a connection condition due to said modulation processing.

22. The recording method for a recording medium as claimed in claim 18, wherein said sub data is embedded into a synchronizing signal portion in said second recording area.

23. The recording method for a recording medium as claimed in claim 18, wherein said sub data is embedded into a sub code portion in said second recording area.

24. The recording method for a recording medium as claimed in claim 17, wherein encryption processing is performed on the data to be recorded onto said recording medium, which is then recorded, and said sub data is data for decoding encryption processing performed on the data to be recorded onto said recording medium.

25. A recording method for a recording medium comprising:

identifying the type of a loaded recording medium;

selecting, on the basis of the result of said identification, a data format for embedding sub data into data recorded on the loaded recording medium so that the data is readable as optical changes;

discriminating whether a recording area in which recording is to be carried out is a recording area in which said sub data should be embedded; and

if, on the basis of the result of said discrimination, the area in which said recording is to be carried out is a recording area in which said sub data should be

embedded, embedding and recording said sub data into data to be recorded in a predetermined area of said recording medium on the basis of said selected data format.

26. The recording method for a recording medium as claimed in claim 25, wherein said recording medium has a first recording area in which said data is to be recorded and a second recording area which is provided at a position to be read out prior to said first recording area and in which table-of-contents data is to be recorded, said method comprising embedding said sub data into the data recorded in said second recording area.

27. The recording method for a recording medium as claimed in claim 26, wherein modulation processing based on a predetermined modulation system is performed on the data to be recorded in said first recording area and said second recording area, which are then recorded, and said sub data is embedded into margin bits of the data on which said modulation processing is performed.

28. The recording method for a recording medium as claimed in claim 27, wherein said margin bits are selected on the basis of the result of the identification of the type of said recording medium.

29. The recording method for a recording medium as claimed in claim 27, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said data so as to satisfy a connection condition due to said modulation processing.

30. The recording method for a recording medium as claimed in claim 28, wherein

if the result of the discrimination indicates that the area in which said recording is to be carried out is not a recording area in which said sub data should be embedded, margin bits in accordance with said predetermined modulation system are selected.

31. The recording method for a recording medium as claimed in claim 26, wherein said sub data is embedded into a synchronizing signal portion in said second recording area.

32. The recording method for a recording medium as claimed in claim 26, wherein said sub data is embedded into a sub code portion in said second recording area.

33. The recording method for a recording medium as claimed in claim 26, wherein encryption processing is performed on the data to be recorded in said first recording area, which is then recorded, and said sub data is data for decoding encryption processing performed on the data to be recorded in said first recording area.

34. The recording method for a recording medium as claimed in claim 25, wherein said recording medium has an identification part indicating whether it is a reproduction-only recording medium or a recordable recording medium, said method comprising identifying the type of said loaded recording medium on the basis of said identification part of said recording medium.

35. The recording method for a recording medium as claimed in claim 34, wherein modulation processing based on a predetermined modulation system is performed on the data to be recorded in said first recording area and said second recording area, which are then recorded, and said sub data is embedded into margin bits of the data

on which said modulation processing is performed.

36. The recording method for a recording medium as claimed in claim 35, wherein said margin bits are selected on the basis of the result of the identification of the type of said recording medium.

37. The recording method for a recording medium as claimed in claim 35, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said data so as to satisfy a connection condition due to said modulation processing.

38. The recording method for a recording medium as claimed in claim 34, wherein whether the recording medium is a write-once recording medium or a rewritable recording medium is identified on the basis of the reflectance of said recording medium, and said sub data is embedded by selecting said margin bits on the basis of the result of said identification.

39. The recording method for a recording medium as claimed in claim 34, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said data so as to satisfy a connection condition due to said modulation processing.

40. A recording device for a recording medium comprising:

an encoding processing unit for performing recording modulation processing on inputted data and processing to embed sub data into said data on the basis of a data format selected on the basis of the type of a recording medium to be recorded; and

a head unit supplied with output data from said encoding unit and adapted for carrying out recording on the recording medium.

41. The recording device for a recording medium as claimed in claim 40, further comprising an encryption processing unit for performing encryption processing on said inputted data and then supplying the data to said encoding unit.

42. The recording device for a recording medium as claimed in claim 41, wherein said encoding processing unit has a modulation processing unit for performing modulation processing on output data from said encryption processing unit, and causes said modulation processing unit to embed, as said sub data, data for canceling the encryption processing performed on the output data from said encryption processing unit.

43. The recording device for a recording medium as claimed in claim 42, wherein said modulation processing unit embeds said sub data into margin bits of the data on which said modulation processing is performed.

44. The recording device for a recording medium as claimed in claim 43, wherein said modulation processing unit embeds said sub data by selecting said margin bits on the basis of the type of said recording medium.

45. The recording device for a recording medium as claimed in claim 44, wherein said modulation processing unit selects said margin bits so as to satisfy a connection condition due to modulation processing performed on the output data from said encryption processing unit, and thus embeds said sub data.

46. The recording device for a recording medium as claimed in claim 40, further comprising an identifying unit for identifying the type of a recording medium loaded on said device, wherein on the basis of the result of identification by said identifying unit, said encoding processing unit selects said data format and embeds said sub data into said data.

47. The recording device for a recording medium as claimed in claim 46, wherein said encoding processing unit has a modulation processing unit for performing modulation processing on the output data from said encryption processing unit, and causes said modulation processing unit to embed, as said sub data, data for canceling the encryption processing performed on the output data from said encryption processing unit.

48. The recording device for a recording medium as claimed in claim 47, wherein said modulation processing unit embeds said sub data into margin bits of the data on which said modulation processing is performed.

49. The recording device for a recording medium as claimed in claim 48, wherein said modulation processing unit embeds said sub data by selecting said margin bits on the basis of the type of said recording medium.

50. The recording device for a recording medium as claimed in claim 47, wherein said modulation processing unit embeds said sub data so as to satisfy a connection condition due to modulation processing performed on the output data from said encryption processing unit.

51. A recording device for a recording medium comprising:

a head unit for recording data onto a recording medium so that the data is optically readable, the recording medium having a first recording area in which data is to be recorded and a second recording area provided at a position to be read out prior to said first recording area;

an encoding processing unit for performing recording modulation processing on inputted data and processing to embed sub data into said data on the basis of a data format selected on the basis of the type of said recording medium; and

a control unit for controlling said encoding processing unit and said head unit so as to record data to be recorded in the second recording area with said sub data embedded therein.

52. The recording device for a recording medium as claimed in claim 51, wherein said control unit discriminates whether the recording area on the recording medium in which recording is to be carried out is said second recording area or not, and when the result of said discrimination indicates said second recording area, said control unit controls said head unit to record the data with said sub data embedded therein into said second recording area.

53. The recording device for a recording medium as claimed in claim 52, wherein said control unit discriminates whether the recording area on the recording medium in which recording is to be carried out is said second recording area or not, and when the result of said discrimination indicates said second recording area, said control unit

controls said head unit to record onto said recording medium the data on which modulation processing is performed by said encoding processing unit.

54. The recording device for a recording medium as claimed in claim 51, further comprising an identifying unit for identifying the type of a recording medium loaded on said device, wherein on the basis of the result of identification by said identifying unit, said encoding processing unit selects said data format and thus embeds said sub data into said data.

55. The recording device for a recording medium as claimed in claim 54, wherein said encoding processing unit has a modulation processing unit for performing modulation processing on the output data from said encryption processing unit, and causes said modulation processing unit to embed, as said sub data, data for canceling the encryption processing performed on the output data from said encryption processing unit.

56. The recording device for a recording medium as claimed in claim 55, wherein said modulation processing unit embeds said sub data into margin bits of the data on which said modulation processing is performed.

57. The recording device for a recording medium as claimed in claim 56, wherein said modulation processing unit embeds said sub data by selecting said margin bits on the basis of the type of said recording medium.

58. The recording device for a recording medium as claimed in claim 55, wherein said modulation processing unit embeds said sub data so as to satisfy a connection

condition due to modulation processing performed on the output data from said encryption processing unit.

59. The recording device for a recording medium as claimed in claim 51, wherein said control unit embeds said sub data into a synchronizing signal portion in said second recording area.

60. The recording device for a recording medium as claimed in claim 51, wherein said control unit embeds said sub data into a sub code portion in said second recording area.

61. A reproducing method for a recording medium comprising:

detecting an identification part indicating the type of a recording medium provided on a recording medium on which data is recorded so that the data is readable as optical changes and on which data indicating the type and having sub data embedded in at least a part of said data on the basis of a data format corresponding to the type of the recording medium is recorded;

discriminating the type of said recording medium on the basis of the data indicating said type read out from said recording medium;

detecting whether the result of the detection of said identification part and the result of said discrimination are coincident with each other; and

if the results are coincident, extracting and decoding said sub data from the data read out from said recording medium.

62. The reproducing method as claimed in claim 61, wherein if the results are

coincident, decoding processing corresponding to the type of the recording medium based on the result of the detection of said identification part and the result of said discrimination is performed on said extracted sub data.

63. The reproducing method for a recording medium as claimed in claim 61, wherein encryption processing has been performed on the data to be recorded on said recording medium, and the encryption processing performed on the data read out from said recording medium is decrypted on the basis of said decoded sub data.

64. The reproducing method for a recording medium as claimed in claim 63, wherein when the encryption processing performed on the data read out from said recording medium could not be decrypted by using said decoded sub data, the reproducing operation of the recording medium is stopped.

65. The reproducing method for a recording medium as claimed in claim 64, further comprising making a warning display.

66. The reproducing method for a recording medium as claimed in claim 61, wherein if the result of the detection of said identification part and the result of said discrimination are not coincident, the reproducing operation of said recording medium is stopped.

67. The reproducing method for a recording medium as claimed in claim 66, further comprising making a warning display.

68. A recording method for a recording medium comprising:

recording data onto a recording medium so that the data is readable as optical

changes; and

embedding and recording sub data into data recorded in a predetermined recording area of said recording medium on the basis of a format corresponding to the type of the data to be recorded on the recording medium.

69. The recording method for a recording medium as claimed in claim 68, wherein said sub data varies between when the data to be recorded on said recording medium is original data and when the data to be recorded on said recording medium is non-original data.

70. The recording method for a recording medium as claimed in claim 68, wherein said sub data has a data pattern which varies between when the data to be recorded on said recording medium is original data and when the data to be recorded on said recording medium is non-original data.

71. The recording method for a recording medium as claimed in claim 68, wherein after predetermined modulation processing is performed on the data to be recorded on said recording medium, the data is recorded onto said recording medium, and said sub data is embedded into margin bits of the data on which said predetermined modulation processing is performed.

72. The recording method for a recording medium as claimed in claim 71, wherein the area on said recording medium in which recording is to be carried out is not said predetermined recording area in which said sub data should be embedded, margin bits in accordance with said predetermined modulation system are selected.

73. The recording method for a recording medium as claimed in claim 68, wherein said recording medium has a first recording area in which said data is to be recorded and a second recording area which is provided at a position to be read out prior to said first recording area and in which table-of-contents data is to be recorded, said method comprising embedding said sub data into the data recorded in said second recording area.

74. The recording method for a recording medium as claimed in claim 73, wherein modulation processing based on a predetermined modulation system is performed on the data to be recorded in said first recording area and said second recording area, which are then recorded, and said sub data is embedded into margin bits of the data on which said modulation processing is performed.

75. The recording method for a recording medium as claimed in claim 74, wherein said margin bits are selected on the basis of a format corresponding to the type of the data to be recorded on said recording medium.

76. The recording method for a recording medium as claimed in claim 73, wherein modulation processing is performed on said main data, which is then recorded onto said recording medium, and said sub data is embedded into said data so as to satisfy a connection condition due to said modulation processing.

77. The recording method for a recording medium as claimed in claim 74, wherein said sub data is embedded into a synchronizing signal portion in said second recording area.

78. The recording method for a recording medium as claimed in claim 74, wherein said sub data is embedded into a sub code portion in said second recording area.

79. The recording method for a recording medium as claimed in claim 68, wherein encryption processing is performed on the data to be recorded onto said recording medium, which is then recorded, and said sub data is data for decoding encryption processing performed on the data to be recorded onto said recording medium.

80. The recording method for a recording medium as claimed in claim 68, further comprising discriminating whether the data to be recorded on said recording medium is original data or non-original data, selecting a data format on the basis of the result of said discrimination, and embedding said sub data on the basis of the selected data format.

81. A reproducing method for a recording medium comprising:

discriminating the type of data recorded on a recording medium on the basis of data indicating the type of data read out from the recording medium on which the data is recorded so that the data is readable as optical changes and on which data is recorded, the data having sub data embedded in at least a part of said data on the basis of a data format corresponding to the type of the data recorded on the recording medium and indicating the type of said recorded data; and

decoding said sub data from the data read out from said recording medium on the basis of the result of said discrimination.

82. The reproducing method for a recording medium as claimed in claim 81,

wherein encryption processing has been performed on the data to be recorded on said recording medium, and the encryption processing performed on the data read out from said recording medium is decrypted on the basis of said decoded sub data.

83. The reproducing method for a recording medium as claimed in claim 82, wherein when the encryption processing performed on the data read out from said recording medium could not be decrypted by using said decoded sub data, the reproducing operation of the recording medium is stopped.

84. The reproducing method for a recording medium as claimed in claim 82, further comprising making a warning display.

85. The reproducing method for a recording medium as claimed in claim 81, wherein if said sub data could be decoded, the reproducing operation of said recording medium is stopped.

86. The reproducing method for a recording medium as claimed in claim 85, further comprising making a warning display.